



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/846,317 | 05/02/2001 | Takehiro Shiimoto | 925-193 | 4714 |

7590

08/30/2002

~~NIXON & VANDERHUYE P.C.~~
1100 North Glebe Road, 8th Floor
Arlington, VA 22201-4714

EXAMINER.

NGUYEN, TUAN M

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2828

DATE MAILED: 08/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/846,317

Applicant(s)

SHIOMOTO, TAKEHIRO

Examiner

Tuan M Nguyen

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.



PAUL IP

SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings (figs 1-9) are objected for minor informalities. The boxes show in figures 1-9 are not labeled as required by 37 CFR 1.83(a). Applicant is required to submit a drawing correction for approval as require by rule 37 CFR 1.123

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

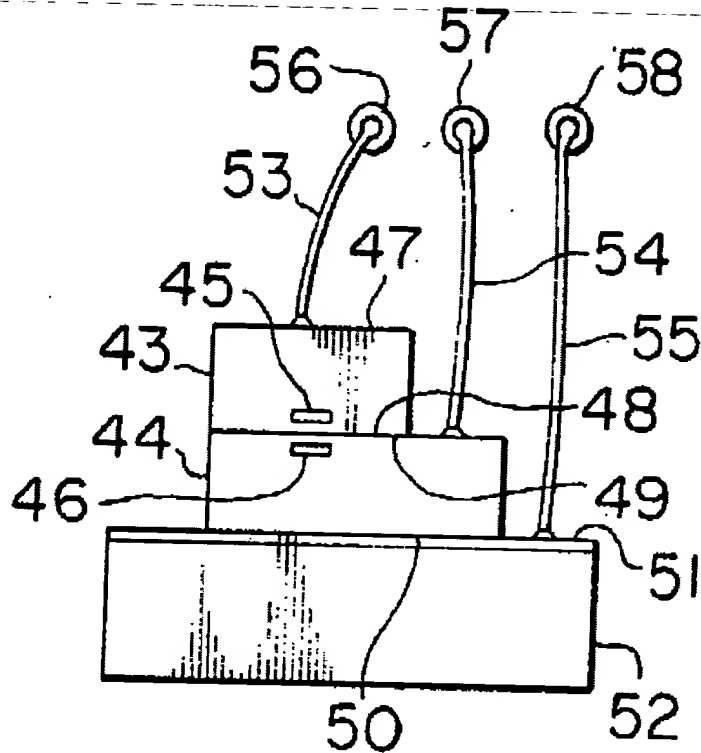
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 5-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Kato et al (US patent 4,901,325).

With respect to claims 1 and 7, Kato discloses semiconductor laser device comprising a stem having mounting surfaces (48, 49), the first semiconductor laser element (44) having a first emission wavelength 780 nanometers, the second semiconductor laser element (43) having a second emission wavelength 830 nanometers. It is inherent that each of the first and second semiconductor laser elements (44 and 43) has a first and second “temperature dependence” respectively and further that the second temperature dependence is lower than the first temperature dependence as claimed because Kato meets all the claimed structure limitations as discussed above, note cols. 13 line 64 to col. 15 line 64, see fig 5 below.

FIG. 5



With respect to claim 3, Kato discloses the second semiconductor laser element (43) provided on top of the first semiconductor laser element (44) is smaller in size than the first semiconductor laser element, see fig 5 above.

With respect to claim 5, Kato discloses the first and second semiconductor laser elements (43, 44) has an emission point and the emission points of first and second semiconductor laser elements are located at an interval of 160 nm or less, note cols 2-7.

With respect to claim 6, Kato discloses a plurality of joined portions in which different soldering material having different melting points are used, note cols 5-14.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

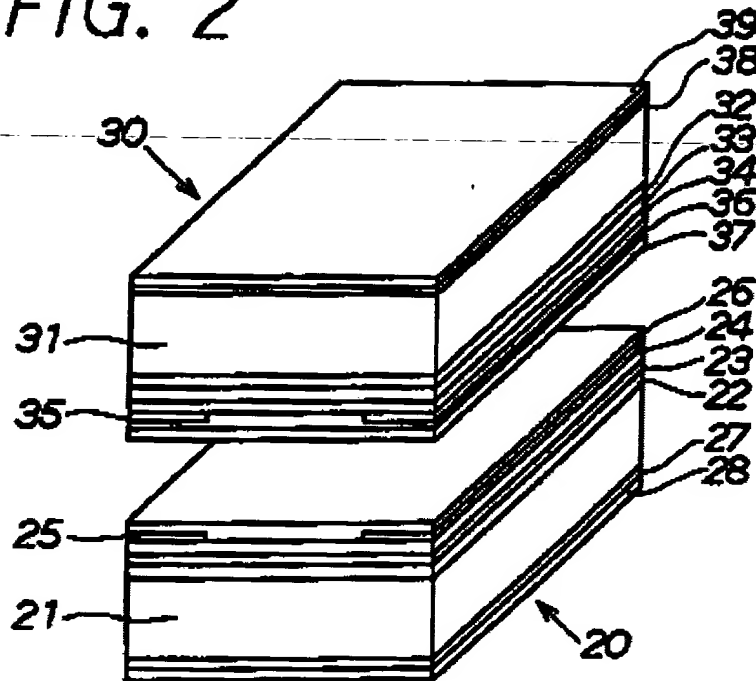
4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al (US patent 4,901,325) in view of Otsuka et al (US patent 5,802,088).

With respect to claim 4, Kato et al discloses all above except for the first and second semiconductor laser elements has an N-layer and a P-layer, and either the N-layers or the P-layers of the first and second semiconductor laser elements are adjacent to each other. Whereas Otsuka et al discloses the first and second semiconductor laser elements (20, 30) has an N-layer and a P-layer, and either the N-layers or the P-layers of the first and second semiconductor laser elements are adjacent to each other, note cols 3-6, see fig 2 below. For the benefit of the stack type semiconductor laser device, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Kato with the stack type semiconductor laser device as taught or suggested by Otsuka.

FIG. 2

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al (US patent 4,901,325) in view of Fisli (US patent 5,243,359).

With respect to claim 2, Kato et al discloses all above except for the first semiconductor laser element is within a wavelength range of 640-660 nm and second semiconductor laser element in within a wavelength range of 770-800 nm. Whereas Fisli disclose raster output scanner for a multistation xerographic printing system comprising the laser beam 14 (645 nanometers); laser beam 16 (755 nanometers); laser beam 18 (695 nanometers) and laser beam 20 (825 nanometers), note col. 4 see fig 1. For the benefit of using multistation xerographic printing system, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Kato with the different wavelength of each semiconductor laser element as taught or suggested by Fisli.

Citation Of The Pertinent References

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The patent to Uchida (US patent 6,301,278 B2) discloses semiconductor laser devices.

The patent to Hattori (US patent 6,297,067 B1) discloses manufacture of field emission elements.

The patent to Kimura et al (US patent 5,790,577) discloses high output semiconductor laser element having robust electrode structure.

The patent to Sawai (US patent 4,604,753) discloses semiconductor laser module having an improved temperature control arrangement.

The patent to Song et al (US patent 6,347,103 B1) discloses light source module with two wavelengths.

The patent to Yoshida et al (US patent 6,303,405 B1) discloses semiconductor light emitting element and its manufacturing method.

The patent to Kovacs et al (US patent 5,576,752) discloses offset mounting of nonmonolithic multiwavelength lasers.

The patent to Paoli (US patent 5,402,436) discloses nonmonolithic array structure of multiple beam diode lasers.

Communication Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan M Nguyen whose telephone number is (703) 306-0247. The examiner can normally be reached on 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 306-5511 for regular communications and (703) 306-5511 for After Final communications.

Application/Control Number: 09/846,317

Page 7

Art Unit: 2828

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.



Paul Ip

SPE

Art unit 2828

TMN

August 15, 2002